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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,714	04/02/2004	Serge Dube	12708-21US-1 PTN/df	9455

20988 7590 11/09/2004
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EXAMINER

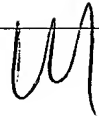
ALI, MOHAMMAD M

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 11/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/815,714	Applicant(s) DUBE ET AL. 	
	Examiner Mohammad Ali	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/02/04</u> . | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, 8-9, 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gilles (5,678,626). Gilles discloses an air conditioning system with thermal energy storage comprising a refrigeration system including a compressor 12 for compressing the refrigerant to high-pressure gas state, a condenser 22 for condensing the refrigerant to a high-pressure liquid state, an expansion valve 34 expanding the refrigerant to low-pressure liquid state, an evaporator 28 for evaporating the low-pressure liquid refrigerant to low-pressure gas state by absorbing heat, and returns the gaseous refrigerant to the compressor 12, the refrigeration system also comprises an energy storage stage in parallel to the evaporation stage/evaporator 28 comprising a container containing a medium/water 42 from which the refrigerant absorb when the compressor is in less demand , the medium being used thereafter as a heat absorber in an evaporation stage of an air conditioning cycle and a heat exchanger 44. See Fig. 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7, 11, 17 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilles in view of Applicant's prior art Fig. 1A and Fig. 1B. Gilles teaches discloses the invention substantially as claimed as stated above. However, Gilles does not disclose night and day time for the different modes of operation of the energy-storage for claims 6 and 11, the summer days capacity of the energy-storage for claim 7, and selecting the time period of a day for a first and second electricity tariff for claim 17, choosing the portion of a day for operating at a lower capacity and at a higher capacity for claim 18 and choosing a specific times for duration of specific operations for claims 19 and 20. The prior art Fig. 1A and 1B teach the above features as admitted by the applicant in description of Fig. 1a and 1b in Para [0005]. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the operation of air conditioning system of Gilles in view of the knowledge gleaned from Applicant's prior art Fig. 1A and 1B such that desired modes of operation at specific time could be provided in order to meet the above claimed features.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilles in view of Hiser (4,173,994). Gilles discloses the invention substantially as claimed as stated above. However Gilles does not disclose a second refrigerant. Hiser teaches the use of a second refrigerant (water, see column 7, lines 35-40) in an energy storage tank 88 for the purpose of exchanging heat by circulating with the help of a pump 90 in a closed loop. See 2. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Gilles air condition system in view of Hiser such that a second refrigerant could be provided in order to exchange heat by circulating in a closed path.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is 703-308-5032. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Esquivel Denise can be reached on 703-308-2597. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Md. Mohsin Ali

Mohammad M. Ali

October 21, 2004